CHAPTER 12

12.0 GLOSSARY

acute toxicity: Short-term toxicity to organism(s) that have been affected by the properties of a substance, such as contaminated sediment. The acute toxicity of a sediment is generally determined by quantifying the mortality of appropriately sensitive organisms that are put into contact with the sediment, under either field or laboratory conditions, for a specified period.

adsorb: The physical or chemical bonding of a gas or liquid (e.g., a contaminant) to a solid (e.g., soil); to adhere to the surface by electrostatic forces.

adsorption: The act of adsorbing (see adsorb).

Amphipods: Any of numerous small crustaceans of the order Amphipoda used in testing of sediments to determine suitability for in-water disposal.

anoxic: Absence of oxygen.

anthropogenic: Of, relating to, or influenced by the impact of man on nature or natural ecosystems.

Bathymetry: The measurement of depth of water.

bathypelagic zone: Ocean depths below 1,000 meters, characterized by complete darkness, low temperature, low oxygen, and great pressure.

benthos: The bottom of an aquatic environment.

bioaccumulation: The uptake of contaminants into an organism through any route, including respiration, ingestion, or direct contact with contaminated water or sediment.

bioassay: The use of living organisms to determine the effect of some substance, factor, or condition.

bioavailable: A contaminant existing in a form that can be taken up by living organisms.

biomagnification: Bioaccumulation up the food web, e.g., the route of accumulation is solely through food. Organisms at higher tropic levels will have higher body burdens than those at lower tropic levels.

breach: A gap or rift in a solid structure such as a levee; to make a hole or gap in.

cell: With respect to upland/wetland reuse of dredged material, such as rehandling facilities or wetland restoration, internally contained dredged material storage areas.

chronic toxicity: Biological tests that use sublethal effects such as abnormal development, growth, and reproduction, rather than solely lethality, as endpoints. These tests involve all, or at least an important, sensitive portion of an organism's life history. A sublethal endpoint may result either from short-term or long-term (chronic) exposures.

DDD: dichloro-diphenyldichloroethane (a breakdown product of DDT, components of technical DDT)

DDE: dichloro-diphenyldichloroethylene (a breakdown product of DDT, components of technical DDT)

DDT: dichloro-diphenyltrichloroethane (an insecticide)

designated waste: A non-hazardous waste containing compounds that, under ambient environmental conditions, could be released and cause degradation of waters of the state. These wastes can only be discharged at Class I or Class II waste management facilities.

dredging: Removal of mud from the bottom of water bodies using a scooping machine. Dredging activities may be subject to regulation under Section 404 of the Clean Water Act.

ecosystem: The interacting system of a biological community and its non-living environmental surroundings.

epibenthic: In aquatic environments, animals living just above the sea or lake bottoms.

epifauna: In aquatic environments, animals living on top of sediments or other surfaces (cf infauna).

epipelagic zone: The upper area of the open ocean (the surface to 200 meters deep).

estuary: Regions of interaction between rivers and nearshore ocean waters where tidal action and river flow create a mixing of fresh and salt water. These areas may include bays, mouths of rivers, salt marshes, and lagoons.

Green Book: The Ocean Disposal Testing Manual (USEPA and USACE 1991)

HPAH: A sum of 3-4 ring PAH compounds.

hydraulic: Involving, moved, or operated by a fluid, especially water, under pressure.

inert waste: A waste that exhibits no chemically reactive properties.

infauna: In aquatic environments, animals living within sediments on the bottom.

isobath: Lines or contours representing equal depth.

LC50: Lethal concentration for 50 percent of test species.

LPAH: A sum of 2-3 ring PAH compounds.

maintenance dredging: Dredging recently deposited sediments in navigation channels.

"major dredgers": In this document, those dredgers that typically initiate dredging projects of 12 feet or more in depth (see "small dredgers").

mean higher high water: The average height of the higher of the daily high tides.

mean lower low water: The average height of the lower of the daily low tides.

mounding: The process of dredged material accumulating at a disposal site.

"mudlock": A situation in the Bay Area in the 1980s when several large, important proposed dredging projects threatened to tax the region's existing disposal options beyond capacity, and when repeated attempts to find other options failed due to various legal, environmental, and economic concerns.

new work construction: Dredging sediments in their natural condition.

NUAD material: Dredged material not suitable for unconfined aquatic disposal. There are three classes of NUAD material designating increasing levels of contamination.

oxidation: Combination of a substance with oxygen.

oxygen minimum zone: The area in the ocean's mesopelagic zone where oxygen concentrations are the lowest in the entire water column.

PAHs: polynuclear aromatic hydrocarbons

PCBs: polychlorinated biphenyls

palustrine: A type of wetland that supports persistent vegetation and is inundated or saturated by waters of non-marine origin. Examples include marshes, swamps, bogs, etc.

pelagic: Living in the open ocean or seas rather than adjacent to land or inland waters.

pH: The measure of acidity or alkalinity of a solution, A pH of 7 is neutral, over 7 is alkaline, and a pH below 7 is acidic.

pycnocline: Rapid change in water density with changing depth.

salinity: The degree of salt in water.

sink: A depression or hole in which materials such as pollutants are concentrated.

"small dredgers": Relatively small dredging projects within channels, harbors, and marinas not exceeding a depth of 12 feet or a volume of 50,000 cy per year on average.

SUAD material: Dredged material that is considered suitable for unconfined aquatic disposal

sublethal: No directly causing death; producing less obvious effects on behavior, biochemical and/or physiological function, or the histology of organisms.

subsidence: The process of sediment settling, usually at a lower level.

target volumes: Intermediate goals in the process of reducing the volume of in-Bay dredged material disposal.

tiered approach: A structured, hierarchical procedure for determining data needs relative to decisionmaking, which involves a series of tiers or levels of intensity of investigation. Typically, tiered testing involves decreasing uncertainty and increased available information with increasing tiers. This approach is intended to ensure the maintenance and protection of environmental quality, as well as the optimal use of resources.

toxicity test: A bioassay that measures an effect (e.g., acute toxicity, sublethal/chronic toxicity). Not a bioaccumulation test (see definition of bioassay).

tropic: Pertaining to nutrition or the nutritive process.

unsuitable sediment: Sediments that, due to contamination, cannot be disposed at unconfined aquatic disposal sites.

water quality certification: A state certification that the proposed discharge of dredged material will comply with the applicable provisions of Sections 301, 303, 306, and 307 of the Clean Water Act.

water quality standard: A law or regulation that consists of the beneficial designated use or uses of a water body, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular water body, and an anti-degradation statement.

work category: In this document, there are three major categories of dredging work ("work categories"): maintenance dredging, new work dredging (i.e., deepening projects), and small dredging projects.